Item #13: Change In Elk Summer Habitat

Evaluation Objectives: To evaluate the relationship between changes in important elk summer habitats, elk populations, and whether these changes are a result of forest management practices.

Methods: Habitat effectiveness of elk summer range considers cover provided by vegetation and human impacts related to access. Habitat effectiveness values can range from 0.0 to 1.0, with higher values indicating better elk habitat conditions. Elk habitat effectiveness calculations were made for most of the forest in early 1993. Habitat effectiveness can be used as an estimator of elk habitat quality resulting from implementation of the Forest Plan at the project level.

Evaluation: Elk habitat effectiveness was calculated for 2,330,598 acres in early 1993, which included some non-forest ownership primarily in the Swan Valley. Calculations are grouped by ranger district, which generally indicates the major Flathead River Drainage areas. The following table displays results of these calculations.

Table 13-1. 1993 Elk Habitat Effectiveness

District	Total acres	Number of habitat analysis areas	Effectiveness average	Range
Glacier View	231,723	35	.57	0.3 to 1.0
Hungry Horse	327,751	51	.70	0.4 to 1.0
Spotted Bear	1,037,011	106	.89	0.4 to 1.0
Swan Island Unit	68,612	20	.23	0.0 to 0.5
Swan Lake	468,187	61	.66	0.3 to 1.0
Tally Lake	197,314	26	.43	0.2 to 0.7

Although forest-wide values have not been recalculated since 1993, it is expected that improvements in elk habitat effectiveness would occur in most areas due to habitat improvement projects, fewer open roads and greater acreage of secure habitat from access management decisions that limit motorized use. Project level effects analyses incorporate the elk habitat effectiveness models.

The habitat improvement program is intended to help maintain habitat productivity and help mitigate effects to wildlife or habitat from other forest uses. By 1995, the Flathead National Forest had an open road density of about 0.5 miles per mi² (approx. 1836 miles/3688 mi²). By 2007 the open road density had decreased to about 0.4 miles per mi² (approx. 1487 miles/3688 mi²).

From 1995 through 2007, about 566 miles total miles of system road was reclaimed and the miles of road open with no restrictions decreased by about 330 miles. From 2008 - 2010, another 116 miles of road was reclaimed for a cumulative total of 682 miles of system road were reclaimed since 1995 while the miles of road open with no restrictions decreased by another 60 miles to 390 miles less than 1995. Additional seasonal and yearlong restrictions to existing system roads have also occurred during this time period.

Both of these actions have provided for thousands of acres of additional security habitat conditions for wildlife. Security core acreage improved primarily for grizzly bear habitat has increased by over 128,000 acres (Table 13-2). Over 39,700 acres of summer and winter habitat have also been improved primarily through prescribed burning since 1998 and over 52,000 acres have been acquired and protected from development. From 2008 to 2010 approximately 44,000 were acquired in the Plum Creek Timber Corp Legacy Lands acquisition project in the Swan Valley on the Swan Lake R. D.

Table 13-2. Existing Grizzly Bear Security Core on the Flathead National Forest

	1995		**2007**		**2010**	
70 GB Subunits	Core Acres	% Core	Core Acres	% Core	Core Acres	% Core
2,223,677 ac (includes 16 mostly non-wilderness subunits (3 subunits with minor Forest ownership are not included)	1,401,926	63	1,530,653	69	1,559,733	70%

Project level analyses occur at the project level based on estimated outcomes of effects on the elk management areas affected by the project. Habitat effectiveness or quality for elk and mule deer summer habitat emphasize moist sites and security areas. Most wet areas are protected because management activities within a riparian habitat conservation area (RHCA) are limited except for restoration of degraded conditions due to a catastrophe or are needed in order to achieve desired vegetation characteristics to attain riparian management objectives. Security areas or open motorized road densities are achieved in much of the forest with maintenance or improved conditions for grizzly bear habitat quality, and maintenance of geographical area road density standards outside of the grizzly bear recovery zone.

Recommended Action: A surrogate for elk habitat quality would be continued improvement in access management conditions that result in fewer open roads and larger areas of security habitat (A-19 Grizzly Bear standards), and diversity of vegetative age classes on the landscape (acres of habitat improvement) both of which are reported elsewhere.